**DEPARTMENT OF TRANSPORTATION**
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

Bay Area Branch
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Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 69.28

# WELDING INSPECTION REPORT

**Resident Engineer:** Siegenthaler, Peter
**Address:** 333 Burma Road
**City:** Oakland, CA 94607

**Report No:** WIR-022083
**Date Inspected:** 08-Jan-2011

**Project Name:** SAS Superstructure
**Prime Contractor:** American Bridge/Fluor Enterprises, a JV
**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island

**OSM Arrival Time:** 700
**OSM Departure Time:** 1900
**Location:** Shanghai, China

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| **CWI Name:** | An Qing Xiang | | | **CWI Present:** | ☑ Yes | ☐ No | |
| **Inspected CWI report:** | ☐ Yes | ☑ No | ☐ N/A | **Rod Oven in Use:** | ☑ Yes | ☐ No | ☐ N/A |
| **Electrode to specification:** | ☑ Yes | ☐ No | ☐ N/A | **Weld Procedures Followed:** | ☑ Yes | ☐ No | ☐ N/A |
| **Qualified Welders:** | ☑ Yes | ☐ No | ☐ N/A | **Verified Joint Fit-up:** | ☑ Yes | ☐ No | ☐ N/A |
| **Approved Drawings:** | ☑ Yes | ☐ No | ☐ N/A | **Approved WPS:** | ☑ Yes | ☐ No | ☐ N/A |
| | | | | **Delayed / Cancelled:** | ☐ Yes | ☑ No | ☐ N/A |

**Bridge No:** 34-0006
**Component:** OBG

**Summary of Items Observed:**

On this day CALTRANS OSM Quality Assurance (QA) Inspector Umesh Gaikwad was present during the times noted above for observations relative to the fabrication of the SAS Superstructure being performed by Zhenhua Port Machinery Company (ZPMC) at Changxing Island in Shanghai, China. QA observed and/or found the following:

BAY 14, OBG 13BW (NWIT # 08096)

This QA inspector performed Magnetic Particle Testing (MT) of approximately 15% of the area previously tested and accepted by ZPMC Quality Control personnel. This QA inspector generated MT report for this date. The members are identified as OBG Components. The weld designations reviewed are as follows.

SEG3014G-004, 059, 060
FB3211-001-023, 024, 027, 028
SEG3014K-065, 066, 071, 072
LD3032-001-096, 097, 072, 073

This Quality Assurance (QA) Inspector observed the following work in progress:

Bay 14

OBG Seg 14W

Repair welding of weld joint no: SEG3020X-010 [Bottom Plate (BP) 3091A to Longitudinal Diaphragm (LD) 3049A, Complete Joint Penetration (CJP) weld near Panel Point (PP) 125]. The welder is identified as 201215 and was observed welding in the 2G position. Welding process was identified as Flux Cored Arc Welding (FCAW). ZPMC CWI was identified as Mr. An Qing Xiang. The welding variables recorded by this QC appeared to comply with WPS: 345-FCAW-2G(2F)-ESAB-Repair-FCM. Repair welding was done as per Critical Welding Repair Report (CWR): B-CWR 2659 Rev-0.

Repair welding of weld joint no: SEG3020L-086 [Bottom Plate (BP) 3091A to Floor Beam (FB) 3327A, Complete Joint Penetration (CJP) weld at Panel Point (PP) 127]. The welder is identified as 066398 and was observed welding in the 2G position. Welding process was identified as Shielded Metal Arc Welding (SMAW). ZPMC CWI was identified as Mr. An Qing Xiang. The welding variables recorded by this QC appeared to comply with WPS: 345-SMAW-2G(2F)-FCM-Repair. Repair welding was done as per Critical Welding Repair Report (CWR): B-CWR 2687 Rev-0.

Repair welding of weld joint no: SEG3020K-025 [Bottom Plate (BP) 3091A to Sub Assembly (SA) plate SA3409A, Complete Joint Penetration (CJP) weld at Panel Point (PP) 127.3]. The welder is identified as 059270 and was observed welding in the 2G position. Welding process was identified as Shielded Metal Arc Welding (SMAW). ZPMC CWI was identified as Mr. An Qing Xiang. The welding variables recorded by this QC appeared to comply with WPS: 345-SMAW-2G(2F)-FCM-Repair. Repair welding was done as per Critical Welding Repair Report (CWR): B-CWR 2691 Rev-0.

Repair welding of weld joint no: SEG3020AA-024 [Bottom Plate (BP) 3093A to Longitudinal Diaphragm (LD) 3048A, Complete Joint Penetration (CJP) weld in between Panel Points (PP) 127~127.3]. The welder is identified as 067940 and was observed welding in the 2G position. Welding process was identified as Shielded Metal Arc Welding (SMAW). ZPMC CWI was identified as Mr. An Qing Xiang. The welding variables recorded by this QC appeared to comply with WPS: 345-SMAW-2G(2F)-FCM-Repair. Repair welding was done as per Critical Welding Repair Report (CWR): B-CWR 2657 Rev-0.

The Flux Cored Arc Welding (FCAW) process on weld joint no: SEG3020BB-064 [Sub Assembly (SA) plate SA3450A to Bottom Plate (BP) 3090A, CJP weld in between panel point (PP) 125~126]. The welder is identified as 066236 and was observed welding in the 2G position. ZPMC QC was identified as Mr. Zhu Lin. The welding variables recorded by QC appeared to comply with WPS: B-T-2232-ESAB.

The Flux Cored Arc Welding (FCAW) process on weld joint no: SEG3020BB-046 [Sub Assembly (SA) plate SA3448A to Bottom Plate (BP) 3089A, CJP weld in between panel point (PP) 125~126]. The welder is identified as 066695 and was observed welding in the 2G position. ZPMC QC was identified as Mr. Zhu Lin. The welding variables recorded by QC appeared to comply with WPS: B-T-2232-ESAB.

The Flux Cored Arc Welding (FCAW) process on weld joint no: SEG3020BB-001 [Sub Assembly (SA) plate SA3443A to Bottom Plate (BP) 3087A, CJP weld in between panel points (PP) 125~126]. The welder is identified as 068445 and was observed welding in the 2G position. ZPMC QC was identified as Mr. Zhu Lin. The welding variables recorded by QC appeared to comply with WPS: B-T-2232-ESAB.

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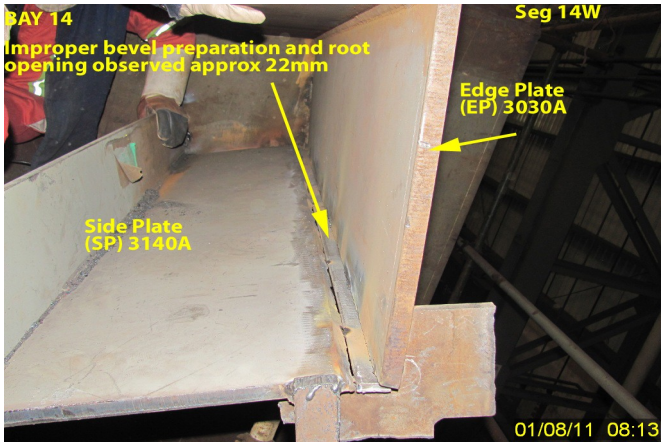
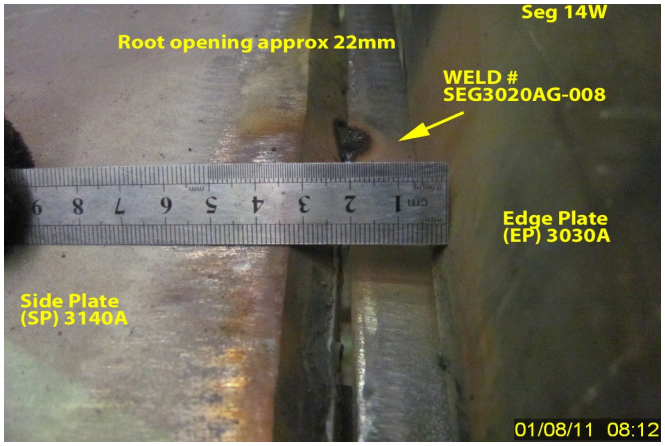
During random in process inspection this QA inspector observed there was improper fit up for the weld number SEG3020AG-008 joining Side Plate (SP) 3410A to Edge Plate (EP) 3030A. The groove face was observed as damaged and the root opening observed approx 22mm, the backing bar used was not properly installed. This issue has been discussed with ZPMC CWI Mr. An Qing Xiang and CT lead QA. Mr. An Qing Xiang informed this QA that this issue would be corrected in a manner compliant with contract documents. Attached photograph provide additional details.

Unless otherwise noted, all work observed on this date appeared to generally comply with applicable contract documents.




**Summary of Conversations:**

Only general conversation was held between QA and QC concerning this project.

**Comments**

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Eric Tsang : 15000422372, who represents the Office of Structural Materials for your project.

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| **Inspected By:** | Gaikwad,Umesh | Quality Assurance Inspector |
| **Reviewed By:** | Patterson,Rodney | QA Reviewer |